

**REMARKS**

This amendment is filed in response to the Office Action dated June 27, 2005. By this response, claims 1 and 12-14 are amended. No new matter is introduced. Claims 1-16 are active for examination.

The Office Action dated June 27, 2005 rejected claims 1, 2, 8, and 13 under 35 U.S.C. §103(a) as being unpatentable over Taguchi et al. (5,304,980) in view of Maekawa (5,304,980). Claims 3-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Taguchi and Maekawa, and further in view of Wilhelm Rekow et al. (6,732,024). Claims 12 and 14 stood rejected under 35 U.S.C. §103(a) as being unpatentable over Farwell et al. (6,640,164) in view of Taguchi, Maekawa and Wilhelm Rekow. Claims 9-11, 15 and 16 were allowed. A petition for a one-month extension of time is submitted concurrently herewith.

It is submitted that the rejections are overcome in view of the amendments and/or remarks presented herein.

**The Obviousness Rejection of Claims 1, 2, 8 and 13 Is Overcome**

Claims 1, 2, 8 and 13 were rejected as being unpatentable over Taguchi in view of Maekawa. By this Response, independent claims 1 and 13 are amended. Applicants submit that the obviousness rejection is traversed because Taguchi and Maekawa cannot support a prima facie case of obviousness.

Claim 1, as amended, describes an information providing device installed in a leader vehicle that leads a follower vehicle. The device includes a state detector configured to detect a state change in the leader vehicle to output a detecting signal. The state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle, such as turning the steering

wheel or activating a turning signal. A guidance generator is provided to prepare guidance to guide the follower vehicle in response to the detecting signal. The guidance includes a photographed image of a view ahead of the leader vehicle.

The combination of Taguchi and Maekawa, however, does not disclose these features. Taguchi relates to an automatic driving system for a purported follower vehicle 200 to follow a vehicle 100 by obtaining information from markers 100d affixed to vehicle 100 (the purported leader vehicle, according to the Office Action). The markers 100d comprise two panels, each of which has a plurality of LEDs arranged in matrix and capable of emitting near-infrared rays. The purported follower vehicle 200 detects the light emitted from markers 100d and determines an operation status of the purported leader vehicle 100. When the speed of the purported vehicle 100 reduces, the purported follower vehicle 100 decelerates to avoid collision.

As the Examiner correctly acknowledged, Taguchi fails to teach that the guidance provided by the leader vehicle includes a photographed image of a vehicle ahead of the leader vehicle, as described in claim 1. Furthermore, there is no state detector provided in Taguchi's system to detect a state change caused by a driver's input, and to output a detecting signal accordingly. Moreover, the way that marks 100d (LEDs) emit light is independent from the operation status of the purported leader vehicle 100. Marks 100d emits consistent near-infrared light disregard the operation status of the vehicle. Accordingly, marks 100d do not emit lights based on any type of detecting signal. Therefore, Taguchi's system lacks a state detector configured to detect a state change in the leader vehicle to output a detecting signal. Taguchi's system also fails to teach a guidance generator that prepares guidance to guide the follower vehicle in response to the detecting signal, as described in claim 1.

The other cited reference, Maekawa, does not alleviate the deficiencies of Taguchi.

Maekawa is directed to an apparatus that optically measures a distance from a subject vehicle on which the apparatus is mounted, to other objects, such as a preceding vehicle running in the same lane. The apparatus calculates the distance based on an obtained image related to other objects, such as a vehicle ahead. This obtained image is only for calculating an inter-vehicle distance and for use by the vehicle on which the apparatus is installed. The image is not provided to any other vehicles that follow the vehicle installing the apparatus. Hence, the images described in Maekawa is not the kind of guidance that is used to guide any other vehicle following the vehicle installing the apparatus. Moreover, the images in Maekawa's system is not generated based on any detecting signal that is generated based on a driver input to the vehicle. Accordingly, Maekawa, like Taguchi, also fails to disclose that "a guidance generator configured to prepare, in response to the detecting signal, the guidance to guide the follower vehicle, wherein the guidance includes a photographed image of a view ahead of the leader vehicle," as described in claim 1. Furthermore, Maekawa also fails to specifically disclose "a state detector configured to detect a state change in the leader vehicle to output a detecting signal, wherein the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle," as described in claim 1.

Since both Taguchi and Maekawa fail to disclose "a state detector configured to detect a state change in the leader vehicle to output a detecting signal, wherein the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle," and "a guidance generator configured to prepare, in response to the detecting signal, the guidance to guide the follower vehicle, wherein the guidance includes a photographed image of a view ahead of the leader vehicle," as described in claim 1, Taguchi and Maekawa, even if combined, do not teach every limitation of claim 1. Consequently, the obviousness rejection base on Taguchi and

Maekawa is untenable and should be withdrawn. Favorable reconsideration of claim 1 is respectfully requested.

Claims 2 and 8 depend on claim 1 and incorporate every limitation thereof. Therefore, claims 2 and 8 also are patentable over the combination of Taguchi and Maekawa by virtue of their dependencies from claim 1.

Independent claim 13 includes descriptions substantially similar to those of claim 1. Accordingly, claim 13 is also patentable over Taguchi and Maekawa for at least the same reasons as for claim 1, as well as based on its own merits. Favorable reconsideration of claim 13 is respectfully requested.

**The Obviousness Rejection of Claims 3-7 Is Overcome**

Claims 3-7, directly or indirectly, depend on claim 1 and were rejected as being unpatentable over Taguchi and Maekawa, and further in view of Wilhelm Rekow. All the features of claim 1 are incorporated into claims 3-7 by virtue of their dependencies.

As discussed earlier, Taguchi and Maekawa, either alone or combined, fail to disclose every limitation of claim 1. The additional document, Wilhelm Rekow, does not alleviate their deficiencies.

Wilhelm Rekow discloses a system for controlling and positioning vehicles based on relative positions to a master vehicle. A slave vehicle receives a location of the master vehicle and a location of the slave vehicle. Once the locations of the vehicles are known, the slave vehicle determines a desired position based on the master vehicle location. The slave vehicle determines if adjustments are needed to position the slave vehicle at the desired position and implements the adjustments if adjustments are needed.

However, like other documents cited in the Office Action, Wilhelm Rekow also fails to specifically disclose “an information providing device installed in a leader vehicle that leads a follower vehicle, for providing the follower vehicle with guidance prepared by the leader vehicle, the information providing device comprising: a state detector configured to detect a state change in the leader vehicle to output a detecting signal, wherein the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle,” and “a guidance generator configured to prepare, in response to the detecting signal, the guidance to guide the follower vehicle, wherein the guidance includes a photographed image of a view ahead of the leader vehicle,” as described in claim 1. Thus, Taguchi, Maekawa and Wilhelm Rekow, even if combined, do not disclose every limitation of claim 1, the features of which are incorporated into claims 3-7. Accordingly, claims 3-7 are patentable over Taguchi, Maekawa and Wilhelm Rekow. Favorable reconsideration of claims 3-7 is respectfully requested.

**The Obviousness Rejection of Claims 12 and 14 Is Overcome**

Claims 12 and 14 were rejected as being unpatentable over Farwell in view of Taguchi, Maekawa and Wilhelm Rekow. By this Response, claims 12 and 14 are amended. It is respectfully submitted that the obviousness rejection of claims 12 and 14 is overcome because the cited documents cannot support a *prima facie* case of obviousness.

Claim 12 describes an information providing system comprising a sender that is used when a vehicle is a leader vehicle that leads a follower vehicle. The sender provides the follower vehicle with guidance for guiding the follower vehicle. The sender includes a state detector configured to detect a state change in the leader vehicle, and a guidance generator configured to prepare, in response to the state change detected by the state detector. The state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle. The guidance includes

a photographed image of a view ahead of the leader vehicle. A presenter, installed in the follower vehicle, is provided to receive the sent guidance and to present the guidance. The presenter includes a guidance obtainer configured to obtain the guidance including the photographed image of the view ahead of the leader vehicle, and an output unit configured to provide the user with the guidance obtained by the guidance obtainer.

However, the combination of Farwell, Taguchi, Maekawa and Wilhelm Rekow does not disclose every limitation of claim 12.

Farwell relates to remote control and navigation using unmanned, self-propelled vehicles. In Fig. 1 of Farwell, a leader vehicle traverses a waypoint, determines a first set of GPS coordinates corresponding to the waypoint, and transmits the first set of GPS coordinates to a follower vehicle. The follower vehicle determines a second set of GPS coordinates corresponding to its own position and compares the first set of GPS coordinates to the second set of GPS coordinates. By controlling steering, drive and braking systems of the follower vehicle, the follower vehicle is guided toward the waypoint by minimizing the difference between the first and second sets of GPS coordinates.

The Office Action correctly acknowledged that Farwell fails to disclose a state detector configured to detect a state change in the leader vehicle, as described in claim 12. Farwell also fails to teach that the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle, as described in claim 12. Furthermore, Farwell specifically describes that the follower vehicles are unmanned or not crewed. Apparently, Farwell's system is not equipped with "an output unit configured to provide the user with the guidance obtained by the guidance obtainer," as described in claim 12. Moreover, Farwell's system uses GPS signals to indicates a movement of the leader vehicle. Nowhere does Farwell describe that a photographed

image of a view ahead of the leader vehicle is provided to follower vehicles as guidance, as described in claim 12.

As discussed earlier, Taguchi, Maekawa and Wilhelm Rekow, either combined or alone, do not specifically disclose “a state detector configured to detect a state change in the leader vehicle, wherein the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle,” as described in claim 12. Furthermore, like Farwell, Taguchi, Maekawa and Wilhelm Rekow, either combined or alone, do not disclose an output unit configured to provide the user with the guidance obtained by the guidance obtainer, wherein the guidance includes a photographed image of a view ahead of the leader vehicle, as described in claim 12. Taguchi, Maekawa and Wilhelm Rekow also fail to teach “a presenter, installed in the follower vehicle,...including a guidance obtainer configured to obtain the guidance including the photographed image of the view ahead of the leader vehicle, and an output unit configured to provide the user with the guidance obtained by the guidance obtainer,” as described in claim 12.

It is further submitted that the Office Action fails to provide the prerequisite motivation to combine Farwell, Taguchi, Maekawa and Wilhelm Rekow. In rejecting the claims, the Office Action merely contended, in blanket, that it would have been obvious to modify the teach of Farwell by combining various features described by Taguchi, Maekawa and Wilhelm Rekow. The Office Action provides no factual evidence to support a specific motivation suggesting how and why the **four documents** should be combined in order to meet the claimed limitations. The alleged motivation to combine Farwell, Taguchi, Maekawa and Wilhelm Rekow is pure hindsight derived from Applicants' own disclosure and claims, which is impermissible under well-established case law.

Since there is no specific motivation to combine Farwell, Taguchi, Maekawa and Wilhelm Rekow; and even if they are combined, the combined documents do not disclose every

limitation of claim 12, Farwell, Taguchi, Maekawa and Wilhelm Rekow cannot support a prima facie case of obviousness. The obviousness rejection based on Farwell, Taguchi, Maekawa and Wilhelm Rekow is untenable and should be withdrawn. Favorable reconsideration of claim 12 is respectfully requested.

Claim 14, like claim 12, also includes descriptions related to detecting a state change in the leader vehicle to output a detecting signal, wherein the state change occurs in the vehicle when a driver of the vehicle provides an input to the vehicle; preparing, in response to the detecting signal, guidance to guide the follower vehicle, wherein the guidance includes a photographed image of a view ahead of the leader vehicle; and transferring instructions that causes the system to transfer the prepared guidance to the follower vehicle. As discussed earlier relative to claim 12, there is no specific motivation to combine Farwell, Taguchi, Maekawa and Wilhelm Rekow, and even if they are combined, the combined documents do not disclose every limitation of claim 14. Accordingly, Farwell, Taguchi, Maekawa and Wilhelm Rekow cannot support a prima facie case of obviousness. The obviousness rejection based on Farwell, Taguchi, Maekawa and Wilhelm Rekow is untenable and should be withdrawn. Favorable reconsideration of claim 14 is respectfully requested.

**Conclusion**

For the reasons give above, Applicants believe that this application is in condition for allowance and Applicants request that the Examiner give the application favorable consideration and permit it to issue as a patent. However, if the Examiner believes that the application can be put in even better condition for allowance, the Examiner is invited to contact Applicants' representatives listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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